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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,416	03/12/2004	Steve R. Stanick	16436.00	6561

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EXAMINER

WILLOUGHBY, TERRENCE RONIQUE

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/798,416	<b>Applicant(s)</b> STANICK ET AL.	
	<b>Examiner</b> Terrence R. Willoughby	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/12/2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-5, drawn to a particular solid-state relay, classified in class 361, subclass 18.
  - II. Claims 6 and 7, drawn to a particular method for installation in a locomotive electrical cabinet, claim 6 classified in class 29, subclass 402.08, and claim 7 is classified in class 29, subclass 825.
2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process for using the claimed solid-state relay may be used when replacing any number of different relays including mechanical relays or solid-state relays other than the claimed solid-state relay. Furthermore, the claimed solid-state relay may be used in a materially different process than the one recited. For instance the step of marking all unmarked wires may be omitted if one replacing the relay can properly identify the unmarked wires due to their connections and keep track of the unmarked wires.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Dolph Torrence, Attorney No. (34501.00) on January 5, 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-7 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Claim Objections***

4. Claim 1 is objected to as the language "said signal comprises a solid-state relay load side and each said signal comprises a solid-state relay load side" makes the claim indefinite as a signal cannot have a side.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (US 5,463,252).

Regarding claim 1, Jones et al. discloses a relay assembly (10) comprising said a plurality of solid-state relay devices (Fig. 5, 30 and column 4, lines 9-14), each of said solid-state relay device having a switch, (Fig. 1, 28), and a signal regulated by a D.C./D.C. power converter (Fig. 1, 59 and column 5, lines 14-17); wherein said switch comprises a solid-state relay load side (Fig. 1, side adjacent load (24)), and said signal comprises a solid-state relay control side (Fig. 1, side with signal (45)) opposite said solid-state relay load side. The reference does not state that the relay assembly is a locomotive relay assembly, however it would be obvious that the above relay assembly may be in any relay assembly, including a locomotive relay assembly, which provides heat dissipation, circuit protection and which requires minimal space requirements.

Regarding claim 2, Jones et al. discloses the claimed said D.C./D.C. power converter (Fig. 1, 59 and column 5, lines 14-17) regulates voltage by stepping down said voltage to a solid-state relay control side voltage (Fig. 1).

Regarding claim 3, Jones et al. discloses the claimed said solid-state relay devices according to claim 2, wherein said solid-state relay load side (Fig. 1, 24), has combined normally open switch configuration (Fig. 8) and a normally closed switch (Fig.

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7) configuration. Jones et al. does not disclose an internally self-biased or externally self-biased solid-state relay device for the relay assembly, wherein said externally self-biased solid-state relay device is self-biased due to electricity running from said load side to said control side through a first D.C./D.C. power converter that runs in parallel with said externally self-biased solid-state relay device. It is well known in the art at the time the invention was made to use a GTO or thyristor as a self-biased solid-state relay switch. With regard to the internally and externally biasing self-biased solid-state relay, one of ordinary skill in the art making use of a thyristor in combination with biasing conventional transistor devices would use appropriate biasing arrangement for proper circuit operation.

***Allowable Subject Matter***

7. Claim 4 is objected to as being dependent upon a rejected base claim 3, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Combined claim 4 would be allowable over the art of record because the prior art does not teach a normally open configuration to close, and causes said normally closed configuration to open, wherein the opening of said internally self-biased solid-state relay device causes said externally self-biased solid-state relay device to be no longer self-biased, thus opening said externally self-biased solid-state relay device as set forth in the claimed invention.

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8. Claim 5 is dependent upon claim 4, and therefore would be allowable for the reasons stated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Willoughby whose telephone number is 571-272-2725. The examiner can normally be reached on 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRW

A handwritten signature in black ink, appearing to read 'Phuong T. Vu', with a stylized, flowing script.

**PHUONG T. VU**  
**PRIMARY EXAMINER**